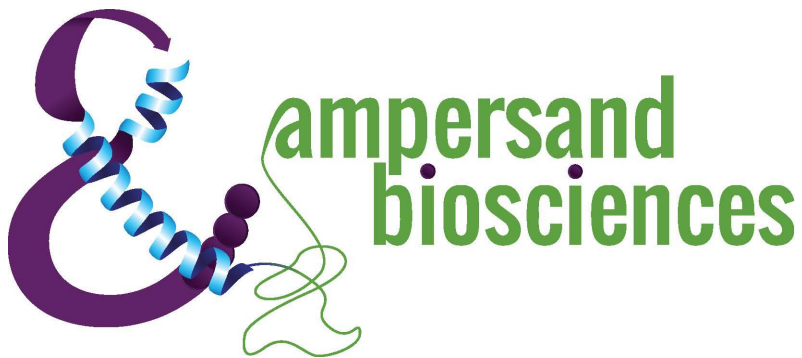


Ferret Cytokine Panel 2 (13-Plex)

Kit # F107-K

Validation Report V 1.0



Prepared by: Marc Damour
Marc Damour (Jun 10, 2025 11:03 EDT)

Date 06/10/25

Reviewed by: Laurie Stephen

Date 06/10/25

1. Assay Description:

A multiplex assay was developed and validated for the measurement of Ferret IFN α , IFN γ , IL-12p40, IL-12p70, IL-17, IL-2, IL-4, IL-6, IL-8, IP-10, MCP-1, MIP-1 β & TNF α . The kit is microsphere-based and consists of using antigen-specific antibodies covalently coupled to magnetic Luminex[®] beads and biotinylated detection antibodies in a capture-sandwich format. All incubations take place at room temperature in a 96-well plate. 30 μ L of standard, controls or samples are added to the appropriate wells, followed by 10 μ L of blocker and 10 μ L of multiplexed capture-antibody microspheres. The plate is incubated for 2 hours at ambient temperature on a plate shaker. After washing 3 times, 40 μ L of detection antibodies are added to each well, thoroughly mixed, and incubated 1 hour at ambient temperature on a plate shaker. The Streptavidin-Phycoerythrin conjugate (SA-PE) working solution is then added to the plate and incubated for 30 minutes. The plate is then washed 3 times, and the beads are resuspended in 100 μ L of wash buffer. After shaking on a plate shaker for 5 minutes, the plate is then analyzed on the Luminex[®] 200 Analyzer using the standard PMT setting.

2. Control and Sample Description:

Control	Description
Control 1	Normal Ferret Serum (33%) spiked with Recombinant IFN α , IFN γ , IL-12p40, IL-12p70, IL-17, IL-2, IL-4, IL-6, IL-8, IP-10, MCP-1, MIP-1 β & TNF α .
Control 2	Normal Ferret Serum (33%) spiked with Recombinant IFN α , IFN γ , IL-12p40, IL-12p70, IL-17, IL-2, IL-4, IL-6, IL-8, IP-10, MCP-1, MIP-1 β & TNF α .

Sample	Description
Serum 1	Normal Ferret Serum spiked with Recombinant IFN α , IFN γ , IL-12p40, IL-12p70, IL-17, IL-2, IL-4, IL-6, MIP-1 β & TNF α .
Serum 2	Normal Ferret Serum spiked with Recombinant IFN α , IFN γ , IL-12p40, IL-12p70, IL-17, IL-2, IL-4, IL-6, IL-8, IP-10, MCP-1, MIP-1 β & TNF α .
Plasma 1	Normal Ferret Plasma spiked with Recombinant IFN α , IFN γ , IL-12p40, IL-12p70, IL-17, IL-2, IL-4, IL-6, MCP-1, MIP-1 β & TNF α .
Plasma 2	Normal Ferret Serum spiked with Recombinant IFN α , IFN γ , IL-12p40, IL-12p70, IL-17, IL-2, IL-4, IL-6, MIP-1 β & TNF α .

3. LLOQ, LDD and Curves:

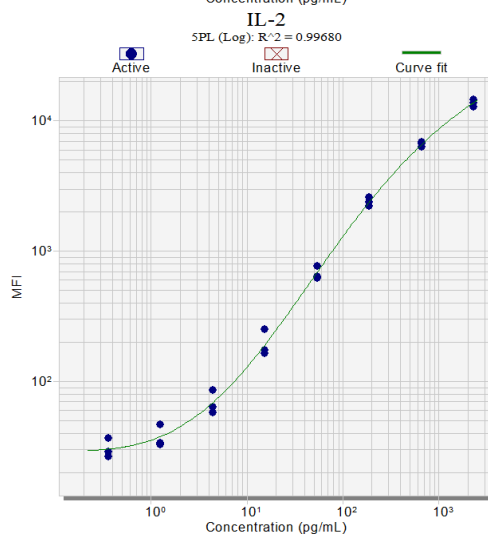
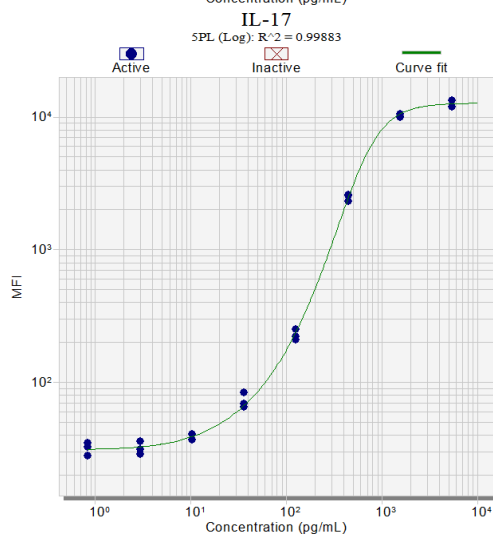
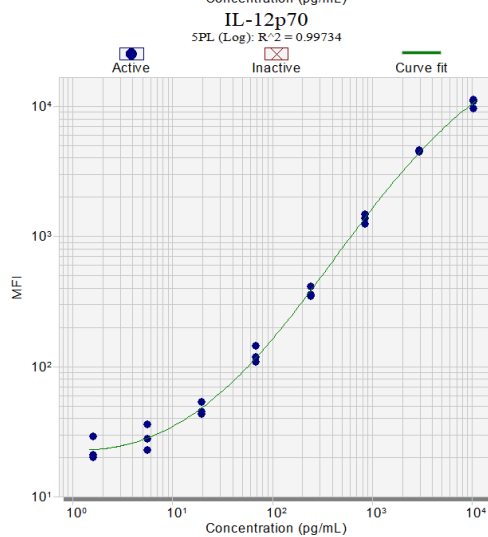
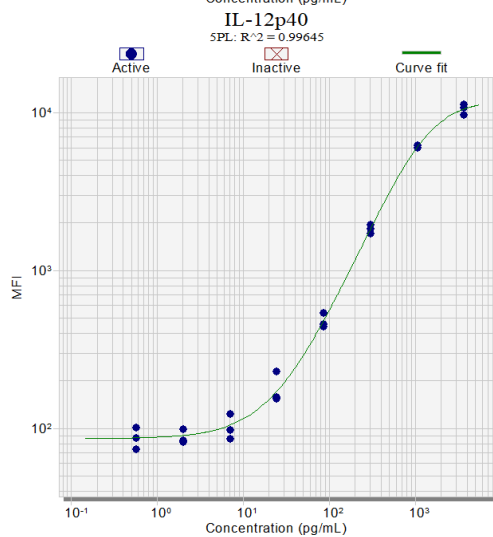
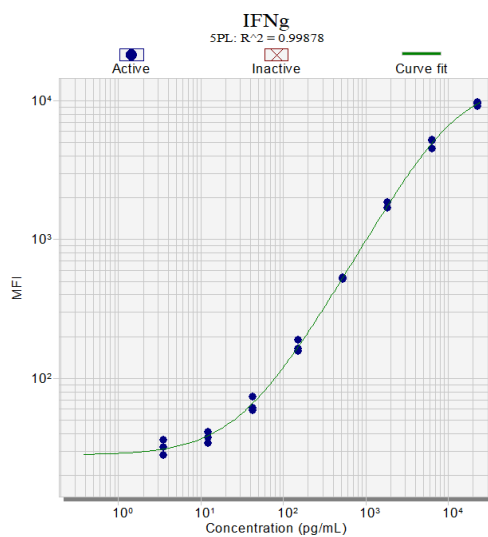
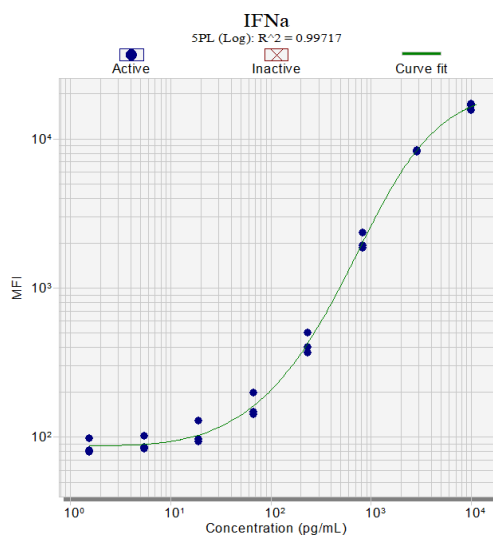
LDD: MFI (Median Fluorescent Intensity) for 8 replicates of the standard curve diluent was averaged and two (2) standard deviations added. This value was calculated to concentration off the standard curve.

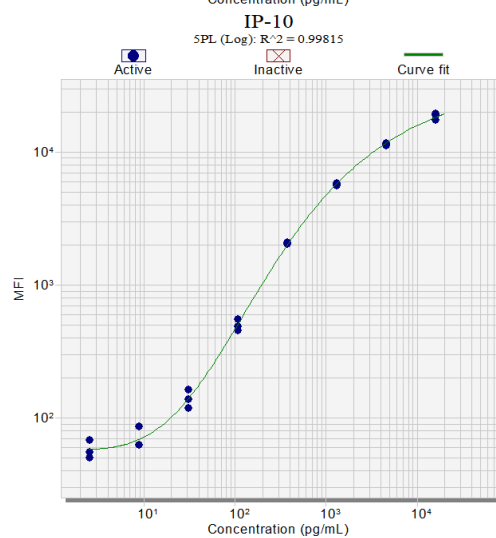
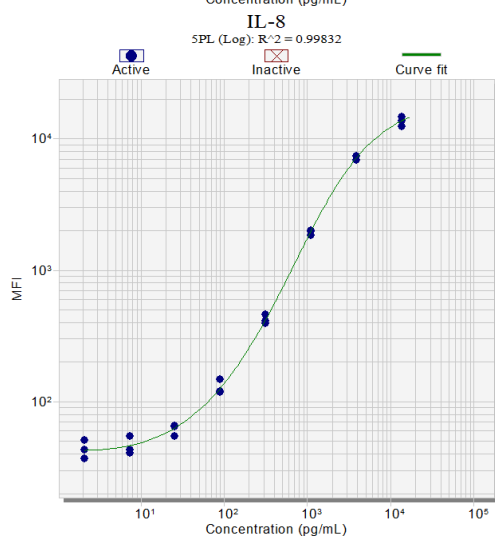
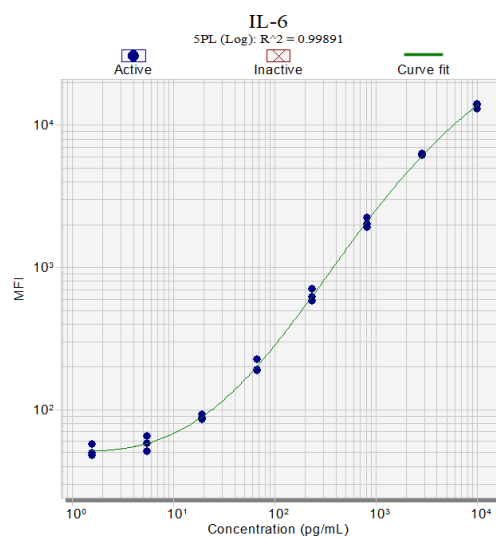
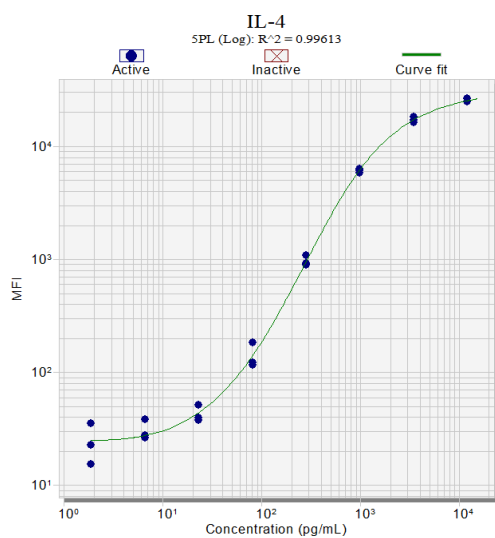
LLOQ: LLOQ was assessed by diluting a low serum sample for 8, 2-fold dilutions in triplicate. The LLOQ represents the value at which 30% CV was attained, with linearity with 70-130%. If that value calculates lower than the LOD, then the LLOQ value is equal to the LOD.

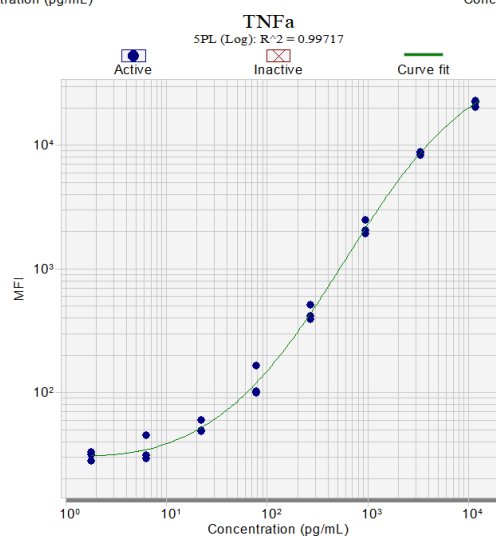
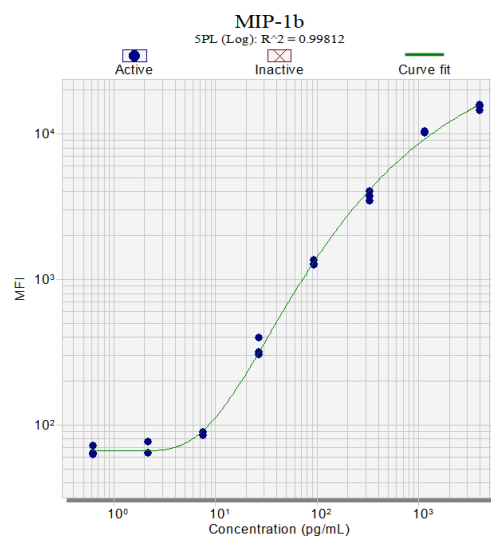
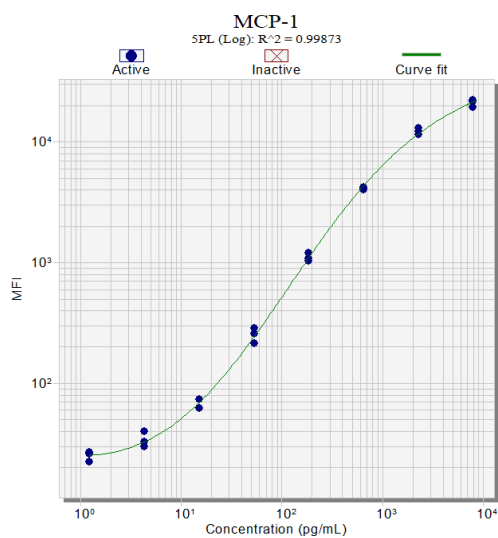
Curves: Curves were calculated using the best fit function in Plate Viewer Software. The S1 is the lowest level standard and the S8 is the highest.

		S1	S8	LDD	LLOQ
IFN α	pg/mL	1.6	10000	5.8	17
IFN γ	pg/mL	3.5	22400	3.5	10
IL-12p40	pg/mL	0.58	3700	1.7	7.4
IL-12p70	pg/mL	1.6	10300	1.8	9.1
IL-17	pg/mL	0.80	5400	2.8	12
IL-2	pg/mL	0.36	2300	0.36	1.2
IL-4	pg/mL	1.9	12000	2.7	14
IL-6	pg/mL	1.6	10000	2.1	5.0
IL-8	pg/mL	2.1	13500	5.0	16
IP-10	pg/mL	2.5	16000	2.5	11
MCP-1	pg/mL	1.2	7900	1.2	6.8
MIP-1 β	pg/mL	0.62	4000	1.9	5.3
TNF α	pg/mL	1.8	11600	2.4	6.6

X dilution factor		S1	S8	LDD	LLOQ
IFN α	pg/mL	4.8	30000	17	51
IFN γ	pg/mL	11	67200	11	30
IL-12p40	pg/mL	10	67200	11	29
IL-12p70	pg/mL	1.7	11100	5.0	22
IL-17	pg/mL	4.8	30900	5.4	27
IL-2	pg/mL	2.5	16200	8.5	37
IL-4	pg/mL	1.1	6900	1.1	3.6
IL-6	pg/mL	5.6	36000	8.2	41
IL-8	pg/mL	4.7	30000	6.2	15
IP-10	pg/mL	6.3	40500	15	48
MCP-1	pg/mL	7.5	48000	7.5	32
MIP-1 β	pg/mL	3.7	23700	3.5	20
TNF α	pg/mL	1.9	12000	5.7	16







4. Precision:

Control samples were run in triplicate over 3 runs over 2 days with 2 analysts. Precision is the % CV of each run (intra, each run; inter, over 3 runs). Acceptance for precision is <20% CV. All assays meet acceptance for precision.

IFN α (pg/mL)		Run 1	Run 2	Run 3	Inter
Control 1	Mean	470	434	496	467
	% CV	5%	2%	1%	6%
Control 2	Mean	4387	4687	4720	4598
	% CV	1%	0%	6%	5%

IFN γ (pg/mL)		Run 1	Run 2	Run 3	Inter
Control 1	Mean	540	594	618	584
	% CV	1%	4%	9%	8%
Control 2	Mean	4833	5267	5517	5206
	% CV	2%	3%	2%	6%

IL-12p40 (pg/mL)		Run 1	Run 2	Run 3	Inter
Control 1	Mean	79	76	88	467
	% CV	3%	2%	5%	7%
Control 2	Mean	531	565	755	617
	% CV	7%	9%	8%	18%

IL-12p70 (pg/mL)		Run 1	Run 2	Run 3	Inter
Control 1	Mean	253	314	288	285
	% CV	6%	4%	1%	10%
Control 2	Mean	706	844	792	781
	% CV	3%	6%	4%	9%

IL-17 (pg/mL)		Run 1	Run 2	Run 3	Inter
Control 1	Mean	250	260	206	239
	% CV	1%	1%	1%	10%
Control 2	Mean	405	429	408	414
	% CV	7%	0%	6%	5%

IL-2 (pg/mL)		Run 1	Run 2	Run 3	Inter
Control 1	Mean	40	38	36	38
	% CV	7%	2%	1%	5%
Control 2	Mean	263	288	338	296
	% CV	2%	1%	9%	12%

IL-4 (pg/mL)		Run 1	Run 2	Run 3	Inter
Control 1	Mean	722	812	877	804
	% CV	0%	6%	1%	9%
Control 2	Mean	1490	1727	1850	1689
	% CV	7%	4%	8%	11%

IL-6 (pg/mL)		Run 1	Run 2	Run 3	Inter
Control 1	Mean	87	103	87	93
	% CV	6%	4%	2%	9%
Control 2	Mean	2013	2117	2257	2129
	% CV	3%	2%	4%	6%

IL-8 (pg/mL)		Run 1	Run 2	Run 3	Inter
Control 1	Mean	812	757	671	747
	% CV	2%	1%	2%	8%
Control 2	Mean	2167	2113	1990	2090
	% CV	6%	4%	5%	6%

IP-10 (pg/mL)		Run 1	Run 2	Run 3	Inter
Control 1	Mean	159	192	202	184
	% CV	1%	4%	0%	11%
Control 2	Mean	680	750	853	761
	% CV	4%	1%	7%	11%

MCP-1 (pg/mL)		Run 1	Run 2	Run 3	Inter
Control 1	Mean	226	244	254	241
	% CV	4%	2%	6%	6%
Control 2	Mean	1713	1647	1717	1692
	% CV	5%	4%	8%	5%

MIP-1 β (pg/mL)		Run 1	Run 2	Run 3	Inter
Control 1	Mean	72	70	83	75
	% CV	8%	7%	3%	10%
Control 2	Mean	1197	1177	1367	1247
	% CV	7%	3%	8%	9%

TNF α (pg/mL)		Run 1	Run 2	Run 3	Inter
Control 1	Mean	71	92	66	76
	% CV	2%	3%	9%	16%
Control 2	Mean	1147	1333	1440	1307
	% CV	3%	2%	4%	10%

5. Linearity:

Linearity was assessed using 2 serum and 2 plasma samples spiked with the standard and diluted 1:2 for 4 dilutions. Percent Recovery was calculated using the calculated value (with kit dilution) as expected (observed x dilution / expected concentration X 100). The acceptance range for linearity is 70-130% recovery for all values above the LLOQ. All assays meet acceptance criteria.

IFN α				
pg/mL	Serum 1	Serum 2	Plasma 1	Plasma 2
1:3	2705	4205	2985	1260
1:6	1405	2135	1600	574
1:12	697	1165	812	223
1:24	332	629	422	153
6	104%	102%	107%	91%
12	103%	111%	109%	71%
24	98%	120%	113%	97%

IFN γ				
pg/mL	Serum 1	Serum 2	Plasma 1	Plasma 2
1:3	1535	5945	13700	2170
1:6	966	3660	6970	1160
1:12	488	1720	4080	636
1:24	215	638	2205	325
6	126%	123%	102%	107%
12	127%	116%	119%	117%
24	112%	86%	129%	120%

IL-12p70				
pg/mL	Serum 1	Serum 2	Plasma 1	Plasma 2
1:3	178	3730	1080	656
1:6	115	1880	489	341
1:12	50	980	284	210
1:24	23	479	170	105
6	129%	101%	91%	104%
12	112%	105%	105%	128%
24	104%	103%	126%	128%

IL-17				
pg/mL	Serum 1	Serum 2	Plasma 1	Plasma 2
1:3	558	1475	1485	248
1:6	308	759	821	108
1:12	160	388	376	46
1:24	78	218	199	26
6	110%	103%	111%	87%
12	115%	105%	101%	74%
24	112%	118%	107%	84%

IL-2				
pg/mL	Serum 1	Serum 2	Plasma 1	Plasma 2
1:3	476	1110	227	45
1:6	225	589	102	25
1:12	107	300	56	13
1:24	53	152	29	5.8
6	95%	106%	90%	110%
12	90%	108%	98%	119%
24	90%	110%	104%	103%

IL-4				
pg/mL	Serum 1	Serum 2	Plasma 1	Plasma 2
1:3	1320	2180	2155	1110
1:6	617	1120	1205	566
1:12	292	592	615	322
1:24	128	328	315	162
6	93%	103%	112%	102%
12	88%	109%	114%	116%
24	77%	120%	117%	116%

IL-6				
pg/mL	Serum 1	Serum 2	Plasma 1	Plasma 2
1:3	548	7020	3170	627
1:6	285	3980	1330	351
1:12	127	2135	702	196
1:24	57	1080	337	57
6	104%	113%	84%	112%
12	93%	122%	89%	125%
24	84%	123%	85%	72%

IL-8				
pg/mL	Serum 1	Serum 2	Plasma 1	Plasma 2
1:3	11267	5820	5160	2115
1:6	5793	3520	2700	1130
1:12	3297	1825	1445	577
1:24	1793	882	705	295
6	103%	121%	105%	107%
12	117%	125%	112%	109%
24	127%	121%	109%	112%

IP-10				
pg/mL	Serum 1	Serum 2	Plasma 1	Plasma 2
1:3	288	7150	1540	1905
1:6	141	3295	810	994
1:12	63	1740	427	515
1:24	25	983	217	281
6	98%	92%	105%	104%
12	87%	97%	111%	108%
24	70%	110%	113%	118%

MCP-1				
pg/mL	Serum 1	Serum 2	Plasma 1	Plasma 2
1:3	12833	1130	818	252
1:6	6653	681	366	128
1:12	2947	364	214	76
1:24	1517	172	123	29
6	104%	120%	89%	101%
12	92%	129%	105%	121%
24	95%	122%	120%	93%

MIP-1 β				
pg/mL	Serum 1	Serum 2	Plasma 1	Plasma 2
1:3	538	15800	2315	10040
1:6	273	7740	949	4660
1:12	165	3595	494	2785
1:24	84	1915	236	1490
6	101%	98%	82%	93%
12	123%	91%	85%	111%
24	125%	97%	81%	119%

TNF α					
pg/mL		Serum 1	Serum 2	Plasma 1	Plasma 2
1:3		1225	12550	2330	545
1:6		622	6835	1085	238
1:12		247	3570	479	135
1:24		113	1805	252	51
6		102%	109%	93%	87%
12		81%	114%	82%	99%
24		74%	115%	86%	75%

- 6. Freeze/thaw stability:** Samples were assessed for freeze-thaw stability after 1, 2, and 3 F/T cycles. All values were within the acceptance range of 80-120% for freeze-thaw samples compared to the non-freeze thawed samples indicating that samples could be freeze-thawed up to 3 times without a loss in signal.

IFN α					
pg/mL		Plasma 1	Plasma 2	Serum 1	Serum 2
Value	FT-0X	2990	1385	2530	3750
	FT-1X	3005	1480	2410	3720
	FT-2X	3165	1465	2440	3780
	FT-3X	3085	1490	2555	3860
% Control	FT-0X	100%	100%	100%	100%
	FT-1X	101%	107%	95%	99%
	FT-2X	106%	106%	96%	101%
	FT-3X	103%	108%	101%	103%

IFN γ					
pg/mL		Plasma 1	Plasma 2	Serum 1	Serum 2
Value	CTL-0 Hr	19900	1705	3765	1175
	2hr RT	21000	1810	4120	1430
	2hr 4C	17850	1485	3655	1225
	4hr 4C	19250	1510	3615	1260
% Control	CTL-0 Hr	100%	100%	100%	100%
	2hr RT	106%	106%	109%	122%
	2hr 4C	90%	87%	97%	104%
	4hr 4C	97%	89%	96%	107%

	IL-12p70				
	pg/mL	Plasma 1	Plasma 2	Serum 1	Serum 2
Value	FT-0X	986	611	472	1780
	FT-1X	1083	616	411	1820
	FT-2X	1054	559	476	1840
	FT-3X	1100	609	416	1875
% Control	FT-0X	100%	100%	100%	100%
	FT-1X	110%	101%	87%	102%
	FT-2X	107%	91%	101%	103%
	FT-3X	112%	100%	88%	105%

	IL-17				
	pg/mL	Plasma 1	Plasma 2	Serum 1	Serum 2
Value	FT-0X	1830	245	207	2100
	FT-1X	1830	237	203	2045
	FT-2X	1990	249	207	2010
	FT-3X	2020	249	191	2155
% Control	FT-0X	100%	100%	100%	100%
	FT-1X	100%	97%	98%	97%
	FT-2X	109%	101%	100%	96%
	FT-3X	110%	101%	92%	103%

	IL-2				
	pg/mL	Plasma 1	Plasma 2	Serum 1	Serum 2
Value	FT-0X	195	55	873	336
	FT-1X	188	54	794	323
	FT-2X	218	57	793	341
	FT-3X	206	60	789	324
% Control	FT-0X	100%	100%	100%	100%
	FT-1X	96%	98%	91%	96%
	FT-2X	112%	104%	91%	101%
	FT-3X	106%	108%	90%	96%

	IL-4				
	pg/mL	Plasma 1	Plasma 2	Serum 1	Serum 2
Value	FT-0X	1905	1140	909	1995
	FT-1X	1895	1085	959	2005
	FT-2X	1920	1105	978	1990
	FT-3X	1925	1130	962	2085
% Control	FT-0X	100%	100%	100%	100%
	FT-1X	99%	95%	106%	101%
	FT-2X	101%	97%	108%	100%
	FT-3X	101%	99%	106%	105%

	IL-6				
	pg/mL	Plasma 1	Plasma 2	Serum 1	Serum 2
Value	FT-0X	2895	629	775	7295
	FT-1X	2865	611	700	7215
	FT-2X	2875	571	634	6915
	FT-3X	2900	602	654	7265
% Control	FT-0X	100%	100%	100%	100%
	FT-1X	99%	97%	90%	99%
	FT-2X	99%	91%	82%	95%
	FT-3X	100%	96%	84%	100%

	IL-8				
	pg/mL	Plasma 1	Plasma 2	Serum 1	Serum 2
Value	FT-0X	4335	2075	1670	6010
	FT-1X	4365	2120	1615	6015
	FT-2X	4665	2100	1585	5960
	FT-3X	4650	2010	1565	6095
% Control	FT-0X	100%	100%	100%	100%
	FT-1X	101%	102%	97%	100%
	FT-2X	108%	101%	95%	99%
	FT-3X	107%	97%	94%	101%

	IP-10				
	pg/mL	Plasma 1	Plasma 2	Serum 1	Serum 2
Value	FT-0X	1215	1460	4645	2225
	FT-1X	1225	1365	4245	2175
	FT-2X	1325	1455	4260	2160
	FT-3X	1280	1420	4455	2180
% Control	FT-0X	100%	100%	100%	100%
	FT-1X	101%	93%	91%	98%
	FT-2X	109%	100%	92%	97%
	FT-3X	105%	97%	96%	98%

	MCP-1				
	pg/mL	Plasma 1	Plasma 2	Serum 1	Serum 2
Value	FT-0X	855	724	311	1370
	FT-1X	825	724	289	1200
	FT-2X	851	743	294	1305
	FT-3X	827	730	273	1320
% Control	FT-0X	100%	100%	100%	100%
	FT-1X	96%	100%	93%	88%
	FT-2X	100%	103%	95%	95%
	FT-3X	97%	101%	88%	96%

	MIP-1 β				
	pg/mL	Plasma 1	Plasma 2	Serum 1	Serum 2
Value	FT-0X	1780	11350	659	2480
	FT-1X	1830	11550	662	2415
	FT-2X	2165	11900	711	2585
	FT-3X	2175	12100	704	2755
% Control	FT-0X	100%	100%	100%	100%
	FT-1X	103%	102%	100%	97%
	FT-2X	122%	105%	108%	104%
	FT-3X	122%	107%	107%	111%

	TNF α				
	pg/mL	Plasma 1	Plasma 2	Serum 1	Serum 2
Value	FT-0X	2275	624	8420	4665
	FT-1X	2360	638	7735	4540
	FT-2X	2385	612	7545	4505
	FT-3X	2420	622	7615	4485
% Control	FT-0X	100%	100%	100%	100%
	FT-1X	104%	102%	92%	97%
	FT-2X	105%	98%	90%	97%
	FT-3X	106%	100%	90%	96%

7. Bench Top Stability: Samples were assessed bench top stability and 2hr RT, and 2 & 4Hr 4°C to determine if the samples were stable on the bench prior to the assay or if refrigeration was required. All values were within the acceptance range of 80-120% for samples compared to the bench top samples indicating that no loss in activity will occur during the testing of the samples.

	IFN γ				
	pg/mL	Plasma 1	Plasma 2	Serum 1	Serum 2
Value	CTL-0 Hr	3155	1185	2375	3655
	2hr RT	2650	1185	2260	3590
	2hr 4C	2680	1310	2100	3575
	4hr 4C	2845	1285	2430	3775
% Control	CTL-0 Hr	100%	100%	100%	100%
	2hr RT	84%	100%	95%	98%
	2hr 4C	85%	111%	88%	98%
	4hr 4C	90%	108%	102%	103%

	IL-12p40				
	pg/mL	Plasma 1	Plasma 2	Serum 1	Serum 2
Value	CTL-0 Hr	380	404	448	1465
	2hr RT	321	422	408	1470
	2hr 4C	351	431	358	1555
	4hr 4C	338	442	462	1590
% Control	CTL-0 Hr	100%	100%	100%	100%
	2hr RT	84%	104%	91%	100%
	2hr 4C	92%	107%	80%	106%
	4hr 4C	89%	109%	103%	109%

	IL-12p70				
	pg/mL	Plasma 1	Plasma 2	Serum 1	Serum 2
Value	CTL-0 Hr	1093	575	455	1960
	2hr RT	924	559	439	2095
	2hr 4C	968	573	384	1840
	4hr 4C	947	582	454	1960
% Control	CTL-0 Hr	100%	100%	100%	100%
	2hr RT	84%	97%	96%	107%
	2hr 4C	89%	100%	84%	94%
	4hr 4C	87%	101%	100%	100%

	IL-17				
	pg/mL	Plasma 1	Plasma 2	Serum 1	Serum 2
Value	CTL-0 Hr	2155	219	178	2125
	2hr RT	1780	224	177	2130
	2hr 4C	1760	225	172	2085
	4hr 4C	1850	235	190	2180
% Control	CTL-0 Hr	100%	100%	100%	100%
	2hr RT	83%	103%	100%	100%
	2hr 4C	82%	103%	97%	98%
	4hr 4C	86%	107%	107%	103%

	IL-2				
	pg/mL	Plasma 1	Plasma 2	Serum 1	Serum 2
Value	CTL-0 Hr	203	39	797	313
	2hr RT	161	41	795	296
	2hr 4C	160	42	754	292
	4hr 4C	171	39	823	311
% Control	CTL-0 Hr	100%	100%	100%	100%
	2hr RT	80%	105%	100%	95%
	2hr 4C	79%	107%	95%	93%
	4hr 4C	84%	101%	103%	100%

	IL-4				
	pg/mL	Plasma 1	Plasma 2	Serum 1	Serum 2
Value	CTL-0 Hr	2180	1049	774	2080
	2hr RT	1825	1019	932	2060
	2hr 4C	1845	1075	989	1965
	4hr 4C	1885	1070	914	2055
% Control	CTL-0 Hr	100%	100%	100%	100%
	2hr RT	84%	97%	120%	99%
	2hr 4C	85%	102%	128%	94%
	4hr 4C	86%	102%	118%	99%

	IL-6				
	pg/mL	Plasma 1	Plasma 2	Serum 1	Serum 2
Value	CTL-0 Hr	3210	577	708	7515
	2hr RT	2650	558	535	7270
	2hr 4C	2530	564	541	7080
	4hr 4C	2635	589	547	7290
% Control	CTL-0 Hr	100%	100%	100%	100%
	2hr RT	83%	97%	76%	97%
	2hr 4C	79%	98%	76%	94%
	4hr 4C	82%	102%	77%	97%

	IL-8				
	pg/mL	Plasma 1	Plasma 2	Serum 1	Serum 2
Value	CTL-0 Hr	5290	1950	1420	6015
	2hr RT	4500	1990	1495	5990
	2hr 4C	4310	2030	1525	5895
	4hr 4C	4485	2055	1575	6150
% Control	CTL-0 Hr	100%	100%	100%	100%
	2hr RT	85%	102%	105%	100%
	2hr 4C	81%	104%	107%	98%
	4hr 4C	85%	105%	111%	102%

	IP-10				
	pg/mL	Plasma 1	Plasma 2	Serum 1	Serum 2
Value	CTL-0 Hr	1390	1360	4365	2185
	2hr RT	1095	1260	4115	2080
	2hr 4C	1250	1380	4150	2120
	4hr 4C	1155	1385	4535	2215
% Control	CTL-0 Hr	100%	100%	100%	100%
	2hr RT	79%	93%	94%	95%
	2hr 4C	90%	101%	95%	97%
	4hr 4C	83%	102%	104%	101%

	MCP-1				
	pg/mL	Plasma 1	Plasma 2	Serum 1	Serum 2
Value	CTL-0 Hr	1014	740	235	1360
	2hr RT	835	753	270	1240
	2hr 4C	831	740	258	1290
	4hr 4C	912	744	296	1325
% Control	CTL-0 Hr	100%	100%	100%	100%
	2hr RT	82%	102%	115%	91%
	2hr 4C	82%	100%	110%	95%
	4hr 4C	90%	101%	126%	97%

	MIP-1 β				
	pg/mL	Plasma 1	Plasma 2	Serum 1	Serum 2
Value	CTL-0 Hr	1610	8915	488	1890
	2hr RT	1330	8515	435	1870
	2hr 4C	1355	9810	484	2045
	4hr 4C	1565	10800	568	2260
% Control	CTL-0 Hr	100%	100%	100%	100%
	2hr RT	83%	96%	89%	99%
	2hr 4C	84%	110%	99%	108%
	4hr 4C	97%	121%	117%	120%

	TNF α				
	pg/mL	Plasma 1	Plasma 2	Serum 1	Serum 2
Value	CTL-0 Hr	2790	551	8560	5105
	2hr RT	2250	496	7880	4715
	2hr 4C	2215	535	7650	4720
	4hr 4C	2405	547	8340	4855
% Control	CTL-0 Hr	100%	100%	100%	100%
	2hr RT	81%	90%	92%	92%
	2hr 4C	79%	97%	89%	92%
	4hr 4C	86%	99%	97%	95%

Ferret Cytokine Panel 2 Validation Report V1.0

Final Audit Report

2025-06-10

Created:	2025-06-10
By:	Laurie Stephen (lstephen@ampersandbio.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAAW1JSa7dn0LCQ-MptxyziiqrMkPEV5NFA

"Ferret Cytokine Panel 2 Validation Report V1.0" History

-  Document created by Laurie Stephen (lstephen@ampersandbio.com)
2025-06-10 - 2:45:31 PM GMT- IP address: 209.23.85.177
-  Document emailed to Marc Damour (mdamour@ampersandbio.com) for signature
2025-06-10 - 2:45:38 PM GMT
-  Document emailed to Laurie Stephen (lstephen@ampersandbio.com) for signature
2025-06-10 - 2:45:38 PM GMT
-  Email viewed by Laurie Stephen (lstephen@ampersandbio.com)
2025-06-10 - 2:46:49 PM GMT- IP address: 74.125.210.35
-  Document e-signed by Laurie Stephen (lstephen@ampersandbio.com)
Signature Date: 2025-06-10 - 2:47:08 PM GMT - Time Source: server- IP address: 209.23.85.177
-  Email viewed by Marc Damour (mdamour@ampersandbio.com)
2025-06-10 - 3:02:55 PM GMT- IP address: 66.249.83.42
-  Document e-signed by Marc Damour (mdamour@ampersandbio.com)
Signature Date: 2025-06-10 - 3:03:45 PM GMT - Time Source: server- IP address: 142.105.242.16
-  Agreement completed.
2025-06-10 - 3:03:45 PM GMT